

U.S.-China Economic and Security Review Commission

Economics and Trade Bulletin



March 9, 2020

Highlights of This Month’s Edition

- **Bilateral trade:** The U.S. goods trade deficit with China totaled \$26.1 billion in January 2020, 24.4 percent down year-on-year, with COVID-19 threatening further disruption in trade.
- **Bilateral policy issues:** Department of Justice announces multiple indictments related to Chinese hacking and IP theft; Department of Commerce finalizes a rule allowing U.S. industry to petition the government for relief in cases where a country’s currency is deemed to be deliberately undervalued.
- **Policy trends in China’s economy:** Emboldened by praise from the WHO, Chinese officials cite COVID-19 response as evidence of China’s leadership in global health.
- **In focus – COVID-19 economic impact and response:** Efforts to contain COVID-19 pummel China’s economy, with a record low in February’s manufacturing PMI; production has been slow to resume as travel restrictions hinder workers’ return; Beijing is focused on supporting economic recovery, targeting financial support toward the most vulnerable companies rather than falling back on across-the-board stimulus; economic disruption in China threatens U.S. multinationals dependent on China-based suppliers and complicates the implementation of the Phase One trade agreement.

Contents

Bilateral Trade2
 U.S. Goods Deficit with China Down 24.4 Percent Year-on-Year in January.....2
 Bilateral Policy Issues2
 DOJ Indicts Multiple Chinese Nationals for Hacking and IP Theft2
 Currency Undervaluation Declared Countervailable.....3
 Policy Trends in China’s Economy4
 Beijing Leverages WHO Praise to Boost CCP’s Leadership4
 In Focus: COVID-19 Economic Impact and Response.....5
 China’s Domestic Economy Contracts.....5
 Beijing Provides Financial Lifelines to Companies8
 COVID-19 Impact on the U.S. Economy10

This issue of the Economics and Trade Bulletin was prepared by Nargiza Salidjanova, Virgil Bisio, Charles Horne, Kaj Malden, Leyton Nelson, and Suzanna Stephens. You may reach us at contact@uscc.gov.

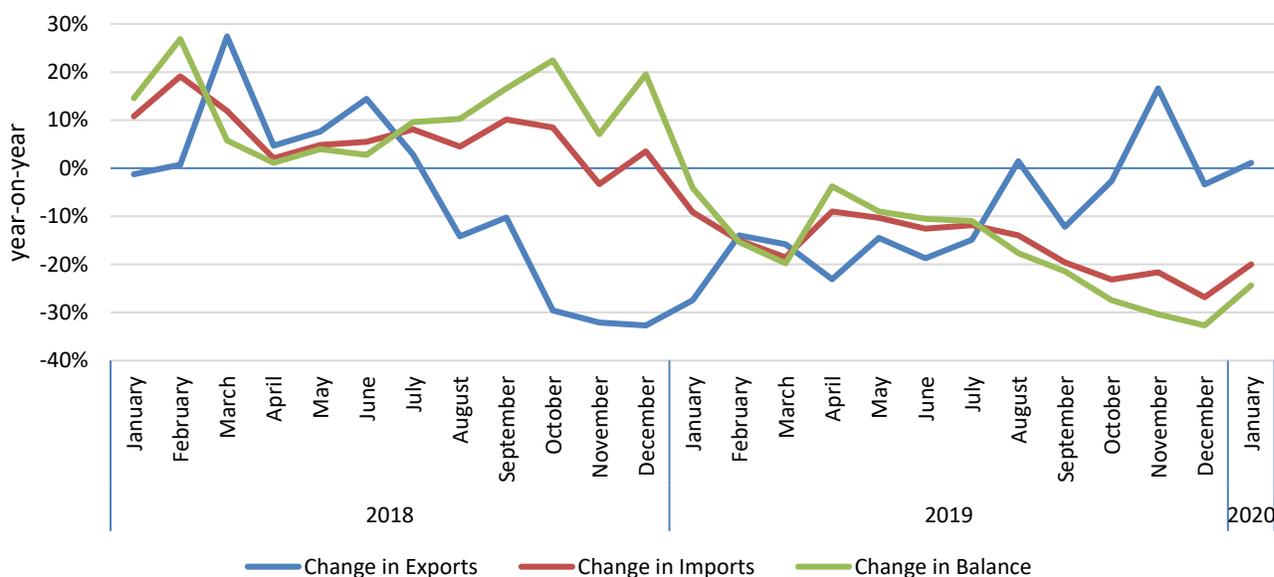
Bilateral Trade

U.S. Goods Deficit with China Down 24.4 Percent Year-on-Year in January

The U.S. trade deficit in goods with China totaled \$26.1 billion in January, a 24.4 percent decrease year-on-year as imports declined and exports expanded slightly (see Figure 1).¹ U.S. imports from China continued to fall, down 20 percent year-on-year to \$33.2 billion.² U.S. exports to China grew 1.1 percent year-on-year to \$7.2 billion.³

The Phase One trade deal between the United States and China, signed in January, includes commitments by China to purchase an additional \$200 billion worth of U.S. products over 2017 levels in four sectors (manufactured goods, services, agricultural products, and energy) over the next two years.* Notwithstanding the provisions of the Phase One agreement, bilateral trade will likely see a downturn as COVID-19 causes disruptions to China's economy and U.S. firms experience supply chain interruptions (the economic effects of COVID-19 on the Phase One agreement and supply chains is discussed in greater detail later in this bulletin).

Figure 1: U.S. Exports, Imports, and the Trade Deficit with China, January 2018–January 2020



Source: U.S. Census Bureau, *Trade in Goods with China*, March 6, 2020. <https://www.census.gov/foreign-trade/balance/c5700.html>.

Bilateral Policy Issues

DOJ Indicts Multiple Chinese Nationals for Hacking and IP Theft

The U.S. Department of Justice (DOJ) recently announced several indictments against Chinese individuals and companies in cases related to alleged hacking incidents and intellectual property (IP) theft. The announcements of the indictments came soon after Attorney General William Barr said in a February 6 speech that “Chinese theft by hacking has been prominent” and the U.S. government would respond by bringing more charges.⁴

On February 10, Mr. Barr announced the indictment of four members of the Chinese People's Liberation Army in connection with hacking the credit reporting agency Equifax. That incident, which the company disclosed in September 2017, remains one of the largest data breaches in history.⁵ According to the indictment, the hackers obtained the names, birth dates, and social security numbers of 145 million U.S. citizens, as well as driver's license and credit card numbers for a smaller number of U.S. citizens.⁶ The indictment also alleged the hackers stole trade secrets from Equifax. Mr. Barr cited the Equifax hack as an example of “China's voracious appetite for the personal

* For an in-depth assessment of China's commitments and their implications for the United States, see U.S.-China Economic and Security Review Commission, *The U.S.-China “Phase One” Deal: A Backgrounder*, February 4, 2020. <https://www.uscc.gov/sites/default/files/2020-02/U.S.-China%20Trade%20Deal%20Issue%20Brief.pdf>.

data of Americans,” and said that DOJ cases reveal a pattern of “state-sponsored computer intrusions and thefts by China targeting trade secrets and confidential business information.”⁷ While criminal charges against members of a foreign country’s military and intelligence services are rare, Mr. Barr said the “indiscriminate theft of vast amounts of sensitive personal data of civilians ... cannot be countenanced.”⁸ This indictment represents only the second time the United States has charged members of the People’s Liberation Army.⁹

On March 2, DOJ unsealed an indictment against two Chinese nationals for helping North Korean hackers launder funds in connection with a North Korean hacking operation.¹⁰ According to the indictment, originally filed in May 2019, in 2018 North Korean hackers stole nearly \$250 million from an unidentified virtual currency exchange. Two Chinese nationals, Tian Yinyin and Li Jiadong, then allegedly helped launder over \$100 million worth of bitcoins, which came primarily from the currency exchange hacks.¹¹ A related civil forfeiture complaint, also unsealed on March 2, seeks to recover funds from 113 virtual currency accounts controlled by Tian and Li.¹² According to Chainalysis, a blockchain analysis company whose technology investigators used to trace funds, the 113 accounts contain approximately \$16 million in cryptocurrency, some of which has been recovered.¹³

The new cases are the latest in a series of indictments against Chinese nationals for hacking incidents. While the U.S. government has focused primarily on government-connected entities, the March indictment does not allege the hackers are linked to the Chinese government.¹⁴ All individuals charged in these two indictments are believed to be based in China, and it is therefore highly unlikely they will stand trial in the United States.¹⁵ Outside observers have questioned the efficacy of these indictments, given that any reputational cost of being “named and shamed” by the U.S. government is likely far outweighed by the potential gains from stealing trade secrets or collecting intelligence on U.S. citizens.¹⁶ The Chinese government has not directly responded to either of the two indictments, although on March 3 the Chinese antivirus firm Qihoo 360 published a report accusing the CIA of more than 11 years of hacking Chinese companies and government bodies.¹⁷

In addition to these new cases, on February 13 DOJ added new charges in an ongoing case against Huawei and two of its U.S. subsidiaries, including racketeering and plotting to steal U.S. trade secrets. The original indictment in the case, which was unsealed last year, alleged the company committed wire fraud and violated Iran sanctions.*¹⁸ In response to the new charges, Huawei called the allegations unfounded, while Geng Shuang, a spokesman for China’s Ministry of Foreign Affairs, called the move “economic bullying” and said “the U.S. has been misusing its national power to oppress Chinese companies with no proof of any wrongdoing.”¹⁹

Currency Undervaluation Declared Countervailable

On February 4, the Department of Commerce released the final rule to label currency undervaluation as an unfair government subsidy[†] if the currency is deemed to be deliberately undervalued. This move will allow U.S. industries to request relief from the U.S. International Trade Commission and the Department of Commerce International Trade Administration. First proposed in May 2019,²⁰ the final rule was issued after the U.S. Department of the Treasury reversed its August 2019 decision to label China a currency manipulator on January 13, ahead of the Phase One deal.²¹

Under the final rule, the Department of Commerce may apply countervailing duties to imported products found both to hurt U.S. industry and benefit from unfair foreign currency undervaluation. In other words, currency undervaluation will qualify as a foreign government subsidy to its local industries—a “countervailable” offense.²² The International Trade Commission can impose countervailing duties after finding that subsidized imports have harmed U.S. industry through unfair competition. These cases are most commonly initiated by U.S. companies, unions, and other industry representatives.

* For more on DOJ charges against Huawei, see U.S.-China Economic and Security Review Commission, *Economics and Trade Bulletin*, March 6, 2019, 5–6. https://www.uscc.gov/sites/default/files/Research/March%202019%20Trade%20Bulletin_0.pdf.

† Not all subsidies are deemed to be “unfair” by the World Trade Organization. Prohibited subsidies, such as incentives to meet export targets, or the substitution of imports with locally-produced goods, will intentionally distort international trade. The Office of the U.S. Trade Representative has highlighted China’s use of unfair subsidies in its annual report on China’s WTO compliance. It also emphasized that China has repeatedly fail to notify WTO members of subsidies issued at the local level. Office of the U.S. Trade Representative, “2018 Report to Congress on China’s WTO Compliance,” February 2019, 8-9. <https://ustr.gov/sites/default/files/2018-USTR-Report-to-Congress-on-China%27s-WTO-Compliance.pdf>; World Trade Organization, “Anti-Dumping, Subsidies, Safeguards: Contingencies, Etc.,” accessed March 5, 2020. https://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm8_e.htm.

The Department of Commerce has said it will make its own determinations as to whether a country has deliberately undervalued its currency, rather than “delegate to Treasury the ultimate determination” in any given case, though the Department of the Treasury’s designation will be considered.²³ In order to proceed with a case, the Department of Commerce must find a currency to be undervalued.²⁴ To do this, it will: (a) compare a country’s real effective exchange rate with an exchange rate estimated by the Department of Commerce; (b) review to see if government actions contributed to an undervaluation, and (c) compare the current nominal U.S. exchange rate with the Department of Commerce’s estimate.²⁵ The difference between the current U.S. exchange rate and the Department of Commerce’s estimate will be considered the benefit received by foreign exporters.²⁶

Policy Trends in China’s Economy

Beijing Leverages WHO Praise to Boost CCP’s Leadership

Encouraged by praise from the World Health Organization (WHO), Chinese officials are attempting to cast their handling of the novel coronavirus (COVID-19) outbreak as a demonstration of China’s leadership in global health, with one state-run think tank reportedly proposing China lead an alternative to the WHO.²⁷ Official statements also distance China from any blame for the outbreak. For example, on March 5, a spokesperson from China’s Ministry of Foreign Affairs claimed the origin of virus remains unknown, reaffirming similar claims by prominent Chinese epidemiologist Zhong Nanshan that the disease was discovered in China but could have originated elsewhere.²⁸ These claims have fueled conspiracy theories that COVID-19 actually originated from the United States.²⁹

Chinese leaders’ stance showcases both domestic media’s far-reaching propaganda response to the outbreak and China’s increased sway over the official narrative in international organizations.³⁰ Despite the Chinese government’s role in delaying its initial response to the virus, including officials in Hubei Province suppressing information and arresting doctors who first sounded the alarm in late December 2019, WHO Director General Tedros Adhanom has lauded China’s swift rollout of quarantine measures.³¹ His remarks were echoed by Bruce Aylward, who led a WHO team for a two-week visit to China in February.³² Chinese President and General Secretary of the Chinese Communist Party Xi Jinping cited Director General Adhanom’s praise in an internal speech seen largely as an attempt to deflect the blame placed on Chinese central government for slow initial action acknowledging the outbreak.³³ According to General Secretary Xi, Director General Adhanom said only China’s governance system could implement as quick and total a lockdown.³⁴

While some observers have praised Director General Adhanom’s political maneuvering to ensure the WHO was able to enter China and cooperate with Chinese medical workers, others have questioned the precedent set by the WHO’s silence on China’s arrest of medical workers.³⁵ The Chinese government often uses international fora to lobby for its geopolitical objectives or advance political narratives, from advocating for internet controls to casting itself as a global human rights leader in response to condemnation of its mass detention of Uyghurs.³⁶ Access granted to the WHO following Director General Adhanom’s resolute support of China’s response to the COVID-19 outbreak raises concerns that China will leverage crises to manipulate international organizations into serving China’s geopolitical objectives in exchange for cooperation. After China initially declined to allow the WHO and the U.S. Center for Disease Control (CDC)* to enter China, WHO officials urged other countries to ignore sensitive political issues in order to ensure continued cooperation.³⁷ CDC officials still have not been allowed to enter China.

More broadly, China has used leverage among other WHO members to advance its own geopolitical agenda, blocking several attempts by Taiwan’s allies to propose Taiwan be included in the WHO.[†]³⁸ The WHO is one of many international organizations that have adhered to China’s view of the “One China” policy, recognizing only

* The CDC offered to send its Epidemic Intelligence Service, a team of first responders to public health crises, to observe and offer help where possible. The agency could likely provide specialized expertise in building knowledge of infection and transmission useful both to Chinese medical workers and in implementing preventative measures to contain the spread in other countries. Donald G. McNeil and Zolan Kanno-Youngs, “CDC and WHO Offers to Help China Have Been Ignored for Weeks,” *New York Times*, February 7, 2020. <https://www.nytimes.com/2020/02/07/health/cdc-coronavirus-china.html>; Center for Disease Control, “What EIS Officers Do,” March 22, 2018. <https://www.cdc.gov/eis/what-eis-officers-do/index.html>.

† Taiwan previously had observer status in the WHO’s World Health Assembly, but has been rejected each year since 2016, following the election of Taiwan’s pro-independence president Tsai Ing-wen. Ralph Jennings, “Blocked from WHO, Taiwan Gets Global Medical Info from Friends,” *Voice of America News*, April 26, 2019. <https://www.voanews.com/east-asia-pacific/blocked-who-taiwan-gets-global-medical-info-friends>.

the People's Republic of China, treating Taiwan as a province of China, and not allowing Taiwan access to the WHO.³⁹ However, numerous other international organizations have developed mechanisms to include Taiwan without granting it formal diplomatic recognition, such as the World Trade Organization and the Asia-Pacific Economic Cooperation.⁴⁰

Prioritizing a diplomatic stance risks isolating Taiwan to the detriment of global cooperation on international health issues, including COVID-19. In a February report, the WHO erroneously reported the number of COVID-19 cases in Taiwan because it had used data provided by China's government, rather than Taiwan's.^{*} ⁴¹ The lack of communication poses a global health risk, as Taiwan is in the impact zone for COVID-19 spread.[†] If Taiwanese cases climb, however, denying the island assistance could exacerbate the outbreak, especially as Taiwan serves as a major travel hub within Southeast Asia.⁴²

Beyond the Chinese government leveraging praise from the WHO as a testament to its global leadership, a Chinese think tank associated with China National Petroleum Corporation proposed a Chinese-led alternative to the WHO, according to reporting from Axios.⁴³ In a message reviewed by Axios, an employee of the think tank solicited feedback from Israeli nonprofit SIGNAL, an organization that promotes cooperation between Israel and China, on how such an organization would be received.⁴⁴ The message indicated global need for an internationally coordinated response to COVID-19, suggesting China's experience made it best suited to lead the coordination effort.⁴⁵

In Focus: COVID-19 Economic Impact and Response

China's Domestic Economy Contracts

Efforts to contain COVID-19 have pummeled China's economy and are expected to have a knock-on effect on global supply chains. Labor shortages in particular are taking a toll: as factories begin to restart, travel restrictions continue to hinder workers returning from the Lunar New Year.⁴⁶

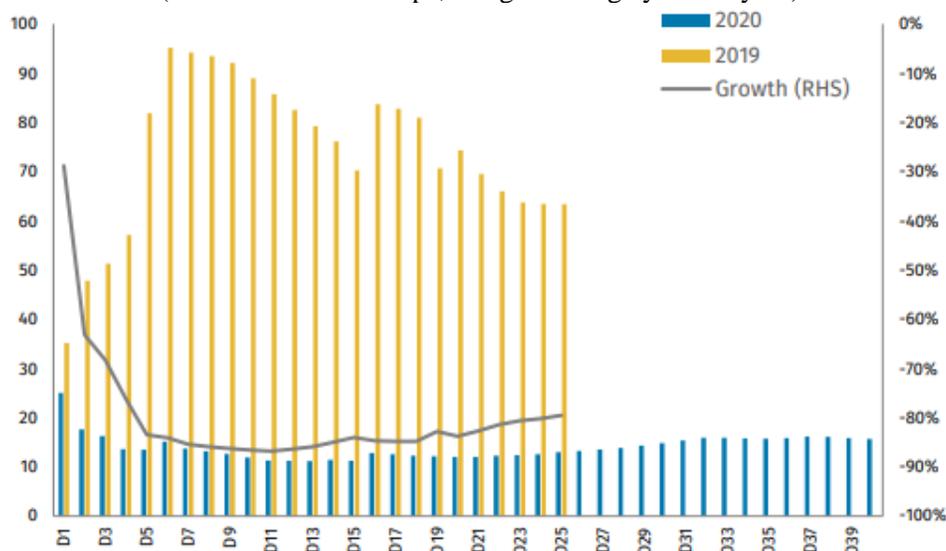
Transport stoppages, checkpoints, and city-wide quarantines—not just in virus-stricken Wuhan but across the entire country⁴⁷—have led to large labor shortages with workers stranded at home.⁴⁸ Japanese brokerage Nomura estimated that only about 25 percent of people had returned to the largest Chinese cities as of mid-February.⁴⁹ Rail passenger traffic after the Lunar New Year has fallen by over 70 percent over 2019⁵⁰ (see Figure 2). The Baidu Migration Index for March 4 illustrated return migration in process, with cities in the Pearl River Delta manufacturing hub receiving the four highest migration inflows: Guangzhou (3.03 percent), Shenzhen (2.64 percent), Dongguan (2.57 percent), and Foshan (2.14 percent).⁵¹

^{*} Taiwan's Mainland Affairs Council is cooperating with China to share information regarding COVID-19. Chen Wei-ting et al., "Taiwan Complains to WHO for Misnumbering Coronavirus Cases," *Focus Taiwan*, February 4, 2020. <https://focustaiwan.tw/society/202002040020>.

[†] As of March 4, 2020, the WHO reported 42 confirmed cases in Taiwan (called "Taipei and Environs" in the WHO report in order not to offend China). World Health Organization, "Coronavirus Disease 2019 (COVID-19) Situation Report – 44," March 4, 2020.

Figure 2: Total Daily Transportation Volumes after the Lunar New Year, 2019 and 2020

(at left: millions of trips; at right: change year-on-year)



Note: D1 is January 25, 2020.

Source: Allen Feng and Logan Wright, “Unconventional Threat, Unconventional Response,” Rhodium Group, March 6, 2020, 2.

Even after returning to work, employees must remain in quarantine for 14 days before reentering a worksite.⁵² In a mid-February member survey by the American Chamber of Commerce in China, respondents stated that global and local travel restrictions and lower labor productivity were the three most significant disruptions resulting from the outbreak.⁵³ About 45 percent of respondents said they had been impacted by labor disruptions.⁵⁴

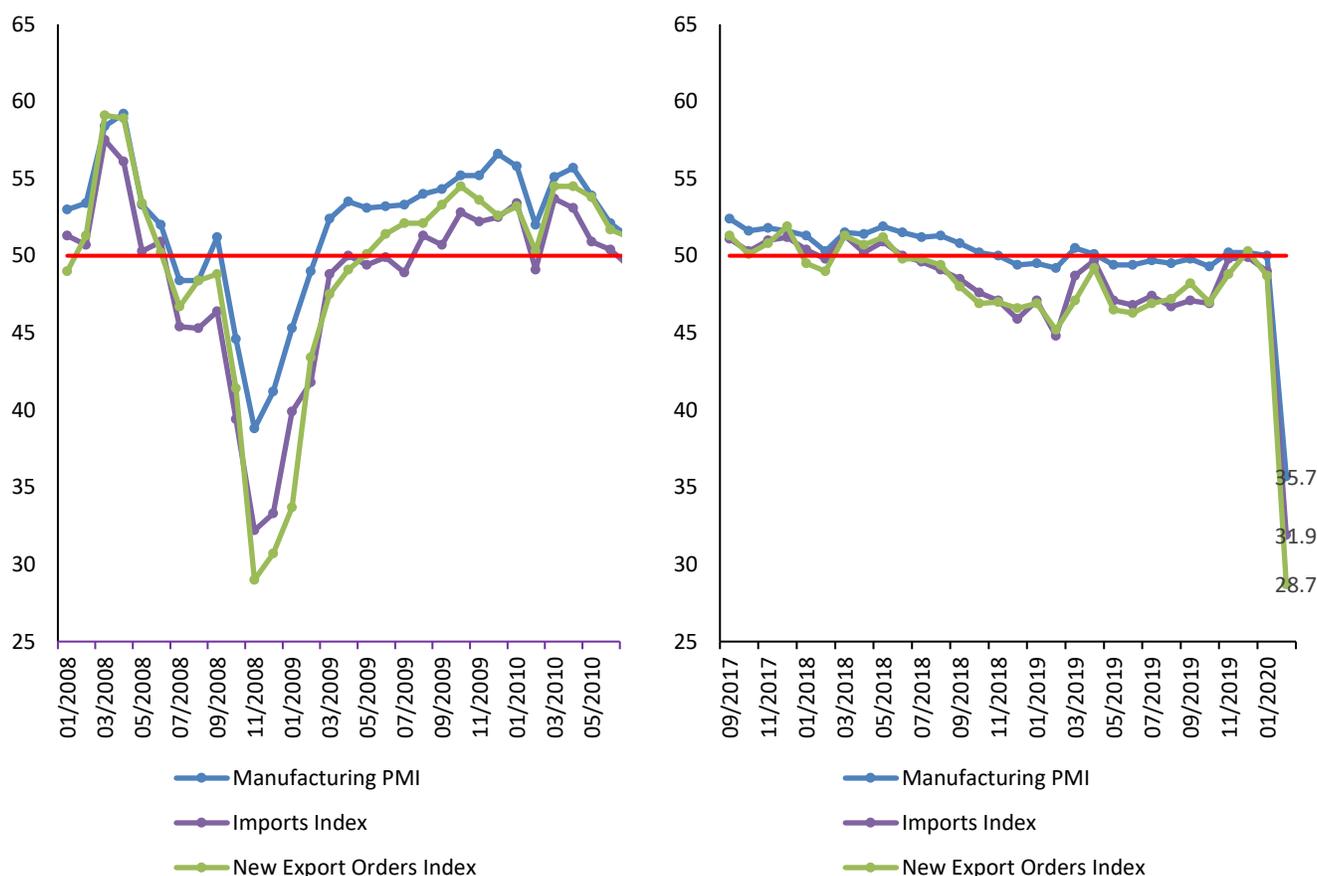
As a consequence, though central government authorities ordered a return to work in late February,⁵⁵ production has only begun to resume and has yet to reach prior output levels.⁵⁶ Official data released on the manufacturing Purchasing Managers’ Index (PMI) showed a drop to historic lows in February.⁵⁷ A similar collapse in the imports index and export orders index also pointed to a deep decline in trade activity, with surveyed companies attributing it to disruptions and order cancellations caused by the COVID-19 outbreak (see Figure 3).⁵⁸ This collapse has prompted companies to seek legal protection. The China Council for the Promotion of International Trade stated that it had issued 3,325 force majeure* certificates covering \$38.5 billion in the first three weeks of February, exempting exporters from contractual obligations in the wake of the outbreak.⁵⁹

* Force majeure is a provision commonly found in commercial contracts that frees both parties from responsibility if an extraordinary event prevents one or both parties from fulfilling contractual obligations. These events must be unforeseeable and unavoidable—often referred to as “an act of God”—and not the result of the invoking party’s actions. Cornell Law School Legal Information Institute, “Force Majeure.” https://www.law.cornell.edu/wex/force_majeure.

Figure 3: Manufacturing PMI and Export and Import Indices

January 2008—June 2010

September 2017—February 2020

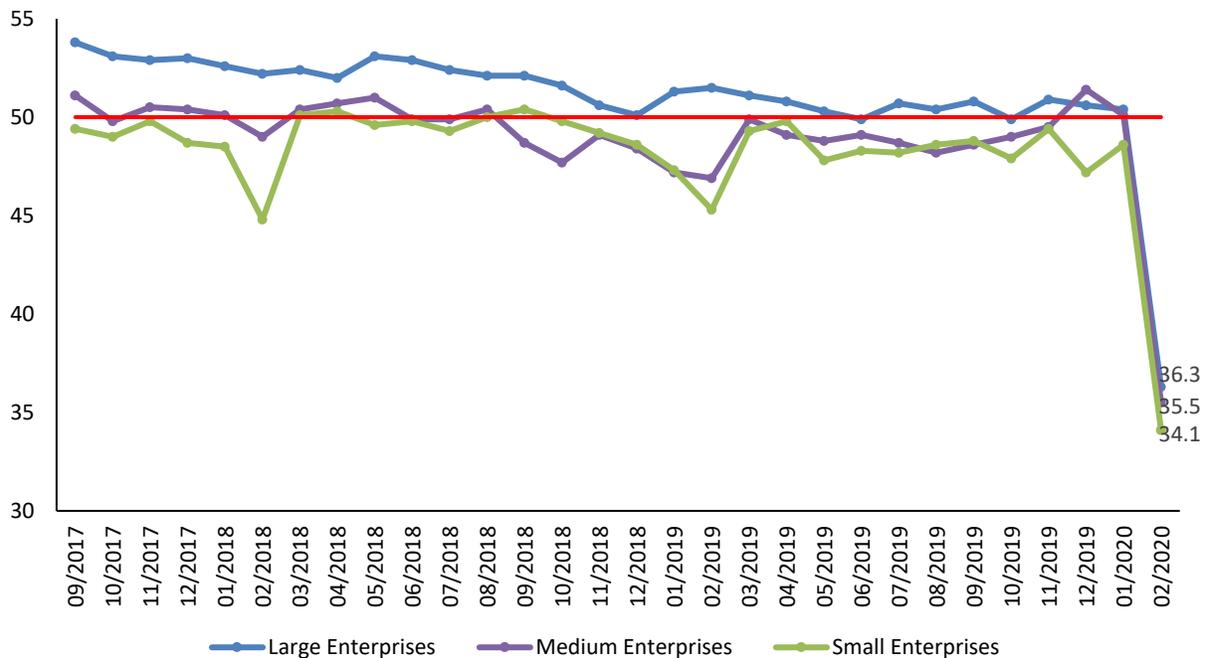


Note: Above 50 indicates an expansion, normally with higher volumes of new orders and output; below 50 indicates a contraction.*
Source: China Federation of Logistics and Purchasing and National Bureau of Statistics via CEIC.

Labor shortages have hit small factories particularly hard. The Ministry of Industry and Information Technology released data showing only 45 percent of small- and medium-sized enterprises (SMEs) had fully resumed operations by March 4.⁶⁰ This figure may be an overestimate: anecdotal reports have emerged that local officials are telling factory managers to leave equipment idle to boost electricity usage numbers.⁶¹ SMEs employ nearly 80 percent of China’s workforce⁶² but cannot count on the same level of government assistance granted to state-owned enterprises or companies in priority sectors. According to interviews by the business magazine *Caijing*, many manufacturing owners do not anticipate resuming normal production until April.⁶³ These pressures mean SMEs are squeezed between stalled production and financial constraints faced by small companies. According to a survey of 1,435 SMEs by Tsinghua University and Peking University, about 85 percent of respondents report they will run out of cash within three months.⁶⁴ SMEs reported their highest costs as employee wages and benefits, as well as rental overhead and loan repayment.⁶⁵ Under these circumstances, small businesses showed the steepest drop in February’s manufacturing PMIs (see Figure 4).⁶⁶

* For more on China’s PMI, see Tom Orlik, *Understanding China’s Economic Indicators*, FT Press Science, 2012, 41–42.

Figure 4: PMI by Business Size, September 2017—February 2020



Note: Above 50 indicates an expansion, normally with higher volumes of new orders and output; below 50 indicates a contraction.* The National Bureau of Statistics defines small, medium, and large enterprises by industry according to criteria such as total assets, operating income, and number of employees.

Source: National Bureau of Statistics via CEIC.

While most industries in China continue to experience disruptions, a few niche markets have seen an uptick in usage from time spent indoors. As many students switch to taking classes online, online education providers like VIPKID, TAL Education, and Alibaba’s DingTalk have been offering some classes and services for free during this period.⁶⁷ In 2018, China’s online education market increased 25.7 percent to \$35.9 billion (251.7 billion renminbi [RMB]) over 2017.⁶⁸ Similarly, technologies that support working from home have also accelerated. Mobile market intelligence firm Sensor Tower tracked growth in remote work app downloads between January 22 and February 20, including DingTalk (a 1,446 percent increase), WeChat Work (a 572 percent increase), and ByteDance’s Lark (a 6,085 percent increase).⁶⁹ Food delivery represents another growth area: Meituan said its grocery orders rose four-fold between January 26 and February 8.⁷⁰ To avoid contact with couriers, orders are dropped in prespecified locations for customers to collect.⁷¹

Beijing Provides Financial Lifelines to Companies

The Chinese government’s response to COVID-19 is shifting to focus on limiting the damage to the economy. Since late January, Beijing has adopted a raft of financial support measures aimed at reducing the burden its virus-control policies have placed on corporations and facilitating a return to normal economic activity. Some measures, such as liquidity injections by the central bank and reductions to port and logistics fees, provide generalized economic support.⁷² But officials have mostly focused on devising a set of more targeted policies to channel funding directly to the companies they believe need it most—namely those involved in epidemic control efforts and financially vulnerable SMEs.[†] These policies include a special lending facility, a new channel for bond issuance, loan forbearance, and temporary reductions to corporate taxes and fees.

* For more on China’s PMI, see Tom Orlik, *Understanding China’s Economic Indicators*, FT Press Science, 2012, 41–42.

† The *PRC Law on Promoting Small and Medium Enterprises* tasks the State Council with setting criteria for defining SMEs on an industry-by-industry basis according to operating revenue, number of employees, total assets, and other factors. The State Council’s criteria vary significantly between industries. For example, the upper limit on industrial enterprises is 1,000 employees or operating revenue of RMB 400 million, while for wholesalers it is 200 employees or operating of RMB 200 million. See China National People’s Congress, *PRC Law*

Reloans and Virus Bonds

Authorities first moved to provide support to companies directly participating in epidemic control efforts, such as manufacturers of medical supplies and daily necessities. During the first week of February 2020, the People’s Bank of China (PBOC) launched a special-purpose relending program, providing \$43.3 billion (RMB 300 billion)—subsequently increased to \$114.8 billion (RMB 800 billion)—in discounted financing to designated national and regional banks, which can then relend to their choice of eligible companies.⁷³ Eligibility is jointly determined by the National Development and Reform Commission and the Ministry of Industry and Information Technology through a “list of key enterprises for guaranteeing epidemic prevention and control, which companies can apply to be added to.”⁷⁴ The interest rate on these reloans is capped at one percentage point below the benchmark for one-year loans—currently 4.05 percent.⁷⁵ However, 50 percent of the interest on special-purpose reloans is also eligible for reimbursement from the Ministry of Finance. Therefore, the real interest rate on these loans is about 1.6 percent.⁷⁶ The government simultaneously enlisted securities exchanges to establish a special “green channel” to fast-track issuances of so-called “virus-control bonds.”⁷⁷ Issuers of virus-control bonds must invest at least 10 percent of the proceeds into virus prevention efforts such as medical supply production, and are accordingly granted concessional rates.⁷⁸ For example, on February 13 the Industrial and Commercial Bank of China announced that it helped Jointown Pharmaceutical Group issue \$114 million (RMB 1 billion) in virus-control bonds at an interest rate of 2.9 percent.⁷⁹

The PBOC claims that nearly 1,000 companies have received concessional loans through its relending facility.⁸⁰ Moreover, according to the *Wall Street Journal*, more than 150 companies have issued \$34 billion (RMB 237 billion) of virus-control bonds since early February—equivalent to between 20 and 30 percent of total bond issuance during the last month.⁸¹ However, problems have also arisen. Analysis by international media indicates only a fraction of the proceeds from virus-control bonds are actually being invested in virus prevention efforts, while companies use the remainder to roll over existing debts.⁸² For example, Fuyao Glass is devoting only 10 percent of the RMB 600 million it raised through green-channel bonds to virus-fighting efforts—the minimum required by bond market regulators.⁸³ Oversight problems have also emerged with the special-purpose relending program as companies seeking to game the system have applied for loans under the program. At least one state-owned coal company was caught falsely claiming it manufactured disinfectant, and on February 27 Chinese financial and business media group Caixin reported that the PBOC had removed 48 companies from the eligibility list.⁸⁴

Temporary Cost Reductions for SMEs

In addition to supporting companies that are part of the virus-fighting supply chain, Beijing is generally concerned about the financial health of SMEs, which have been particularly impacted by the outbreak. SMEs cite worker wages and benefits as well as rental fees and loan repayment as significant financial burdens.⁸⁵ Beijing has accordingly adopted policies aimed at reducing the burden its virus-control measures place on SMEs. On February 26, the Ministry of Commerce temporarily cut companies’ mandatory social security, unemployment, and workplace injury contributions and reduced electricity fees by 5 percent.⁸⁶ On March 2, the China Banking and Insurance Regulatory Commission preemptively ordered banks to postpone loan repayments until after June 30 and allowed them to postpone recognizing nonperforming loans until after that date.⁸⁷ This may help small firms get

on *Promoting Small and Medium Enterprises* (《中华人民共和国中小企业促进法》), September 1, 2017. Translation. http://www.npc.gov.cn/zgrdw npc/xinwen/2017-09/01/content_2027929.htm; China State Council, *Notice on Standard Rules for Differentiating* (《关于印发中小企业划型标准规定的通知》), July 4, 2011. Translation. http://www.gov.cn/zwggk/2011-07/04/content_1898747.htm.

* Within Hubei—the province where the epicenter of Wuhan is located—all companies were granted full exemptions from social security, unemployment, and workplace injury contributions for a period of 2–6 months. Outside Hubei, SMEs were also fully exempted for 2–4 months, while large companies received a 50 percent reduction in their contributions over the same period. The 5 percent cut to electricity charges is being applied inside and outside of Hubei. See *Eastmoney*, “MOFCOM: The Epidemic Is a Large Shock to the Accommodations and Catering Industry, Related Companies Receive Tax and Fee Exemptions during the Period of Prevention and Control” (商务部: 住宿餐饮受疫情冲击大 防控期间对相关企业免收增值税), February 26, 2020. Translation. <http://finance.eastmoney.com/a/202002261397892662.html>.

through the tough times and avoid bankruptcy, but will also cause a spike in nonperforming loans on bank balance sheets later this year and complicate financial regulators' ongoing efforts to clean up the banking system.

The highly targeted character of Beijing's support measures reflects policymakers' reluctance to fall back on across-the-board stimulus and cede ground in their three-year-old financial cleanup campaign. However, an accounting of the damage done to China's economy by COVID-19 has only just begun, and the pressure to adopt larger stimulus measures will likely mount as bad economic data continue to come out. Whether Beijing's current level of financial support is sufficient to help companies through a difficult quarter and enable a rebound later this year largely depends on the course of the epidemic. Current policies appear predicated on the assumption that the spread of COVID-19 within China will largely peter out before summer. If this proves incorrect, it could prompt a significant reexamination of the level of stimulus needed to support an economic recovery.

COVID-19 Impact on the U.S. Economy

COVID-19's far-reaching disruption of economic activity in China threatens to impair the commercial performance of U.S. multinationals dependent on China-based suppliers. Beijing's purchase commitments made as part of the Phase One agreement—already ambitious expansions of U.S.-China trade from 2017 levels—may be harder to achieve as the Chinese government focuses on containing the spread and economic fallout of the outbreak. The correspondingly slow and uneven resumption of economic activity in China raises concerns about U.S. supply chain vulnerabilities, particularly in the computers and electronics products, pharmaceuticals, and automotive sectors. While the full impact of these disruptions on the U.S. economy is difficult to assess given lagged data and rapidly evolving circumstances, U.S. policymakers have taken steps to stabilize market sentiment and ensure medical preparedness in the event of an expanded outbreak of COVID-19 in the United States.

Timely Implementation of “Phase One” Trade Agreement Brought into Question

Though officials in Washington and Beijing indicate implementation of the Phase One trade agreement will continue as scheduled, uncertainty concerning COVID-19's impact on China's ability to meet purchase commitments as well as language in the deal's text provide the possibility that implementation could be disrupted. On February 25, U.S. Secretary of Agriculture Sonny Perdue and U.S. Trade Representative Robert Lighthizer announced Beijing had begun taking steps to implement agriculture-related commitments made in the agreement, such as lifting a ban on imports of U.S. poultry and poultry products, updating lists of products that can be exported to China as feed additives, and revising an approved list of U.S. seafood species that can be exported to China, among others.⁸⁸ The Chinese government also announced tariff exclusions for imports of U.S. agricultural products subject to retaliatory tariffs and a reduction in retaliatory tariff rates on other U.S. agricultural goods.⁸⁹ However, the U.S. Department of Agriculture forecasts U.S. agriculture exports to China will reach just \$14 billion in the year ending September 30, 2020—a fraction of the \$80 billion worth of U.S. agricultural products China committed to buying over the next two years—citing “significant uncertainties” concerning COVID-19's impact on the timing of China's purchases.⁹⁰ The broader downturn in industrial activity in the Chinese economy sparked by the virus could also impede purchases of U.S. manufactured goods. Separately, while the text of the Phase One agreement makes no specific reference to force majeure exemptions, it includes a clause allowing for consultations “in the event that a natural disaster or other unforeseeable event” delays compliance, potentially providing Beijing the option to stall its purchase commitments.⁹¹

Supply- and Demand-Side Disruptions Threaten Performance of U.S. Firms

Extended factory closures and mandatory quarantines are bringing U.S. supply chain vulnerabilities into sharp relief given China's pivotal role as a producer of intermediate goods. A mid-February survey by the American Chamber of Commerce in Shanghai,* for example, found that 78 percent of U.S. companies with manufacturing operations in the Yangtze River Delta area do not have sufficient staff to run full production lines.⁹² Sectors impacted include:

* The survey was completed by 109 member companies with manufacturing operations in Shanghai, Suzhou, Nanjing, and the wider Yangtze River Delta from February 11 to February 14. American Chamber of Commerce in Shanghai, “Supply Chains and Factory Openings: An AmCham Shanghai Mini-Survey,” February 17, 2020. <https://www.amcham-shanghai.org/en/article/supply-chains-and-factory-openings-amcham-shanghai-mini-survey>.

- *Computer and electronics products:* Supply chain analytics firm Llamasoft notes the U.S. computer and electronic products industry is most at risk of disruptions due to thin supply inventories and lack of alternative sources beyond China for parts.⁹³ According to data from the Bureau of Economic Analysis at the U.S. Department of Commerce, 16 percent of U.S. multinationals' net property, plants, and equipment used for the production of computers and electronics products was located in China as recently as 2017.⁹⁴ This dependence informs recent announcements made by U.S. electronics firms such as Apple and Microsoft that they would miss revenue projections for the first quarter of 2020 as disruptions to their China-centric supply chains diminish their ability to meet consumer demand for their products.⁹⁵
- *Pharmaceuticals:* The United States sources 80 percent of its active pharmaceutical ingredients (APIs)—key inputs into finished drugs—from overseas, with a substantial portion of them coming from China or from third countries like India, which also source APIs directly from China.⁹⁶ Sustained stalls in production in China could lead to shortages and increased prices of antibiotics, diabetes drugs, pain relievers, and antiretroviral therapies for the treatment of HIV, among others.⁹⁷
- *Automotive:* COVID-19 has hit the automotive sector particularly hard because Wuhan and wider Hubei Province, the origin of the epidemic's outbreak and the region where industrial activity is most significantly interrupted, serve as a hub for the production of automotive parts.⁹⁸ According to Moody's, interrupted flows of auto parts from China to assembly facilities in other countries, together with plummeting demand in the Chinese market itself,* could result in global auto sales falling by 2.5 percent in 2020.⁹⁹ Anecdotal reports suggest the final assembly of vehicles in the United States is at risk, with factory workers in General Motors' plants in Flint, Michigan, and Arlington, Texas, reporting that parts shortages from China could slow assembly lines of sport-utility vehicles.¹⁰⁰

In addition to upending supply chains, COVID-19 also risks further shrinking the U.S. trade surplus in services with China, amid travel restrictions.[†] Flight cancellations and reduced service to China may cut Chinese tourist spending on travel, hotels, and other U.S. services typically consumed in higher amounts around the time of China's Lunar New Year holiday.¹⁰¹ U.S. domestic consumption of travel and tourism services may also be disrupted depending on the extent of COVID-19's spread within the United States. United Airlines became the first U.S. air carrier to announce a 20 percent reduction in international service and 10 percent reduction in domestic service.¹⁰²

Preliminary U.S. policy responses have centered on boosting overall market confidence amid the economic uncertainty generated by COVID-19. On March 3, the Federal Reserve announced it would cut interest rates by 50 basis points to 1–1.25 percent, stating that while the U.S. economy remained strong, COVID-19 “poses evolving risks to economic activity.”¹⁰³ Separately, on March 4 the U.S. House of Representatives approved an \$8.3 billion funding package to spur the development of new treatments, boost funding to purchase medical supplies, and support states and localities in testing for and treating COVID-19.¹⁰⁴

* The China Passenger Car Association, a Chinese automotive industry association representing domestic and multinational automotive companies, reported that passenger car retail sales in China fell 80 percent year-on-year in February 2020. Top automotive firms General Motors and Toyota do not anticipate growth in sales to resume until the second half of 2020. Norihiko Shirozu, Yilei Sun, and Brenda Goh, “China's Passenger Car Sales Fall 80% in February on Coronavirus Epidemic,” *Reuters*, March 4, 2020. <https://www.reuters.com/article/us-health-coronavirus-toyota/chinas-passenger-car-sales-fall-80-in-february-on-coronavirus-epidemic-idUSKBN20R1BH>.

† The U.S. trade surplus in services with China has steadily declined since the second half of 2018 on the back of falls in transportation and travel, top U.S. services exports to China. In Q3 2019, the value for transportation (\$13.1 billion) and travel (\$9.67 billion) declined 5.3 percent and 4.1 percent year-on-year, respectively. U.S. Department of Commerce – Bureau of Economic Analysis, *U.S. Trade in Goods and Services by Selected Countries and Areas, 1999-Present*, U.S. Department of Commerce, Foreign Trade Division, January 30, 2020.

Disclaimer: The U.S.-China Economic and Security Review Commission was created by Congress to report on the national security implications of the bilateral trade and economic relationship between the United States and the People’s Republic of China. For more information, visit www.uscc.gov or follow the Commission on Twitter at @USCC_GOV.

This report is the product of professional research performed by the staff of the U.S.-China Economic and Security Review Commission, and was prepared at the request of the Commission to support its deliberations. Posting of the report to the Commission’s website is intended to promote greater public understanding of the issues addressed by the Commission in its ongoing assessment of U.S.-China economic relations and their implications for U.S. security, as mandated by Public Law 106-398 and Public Law 113-291. However, it does not necessarily imply an endorsement by the Commission, any individual Commissioner, or the Commission’s other professional staff, of the views or conclusions expressed in this staff research report.

Endnotes

- ¹ U.S. Census Bureau and U.S. Bureau of Economic Analysis, *U.S. International Trade in Goods and Services*, March 6, 2020. <https://www.census.gov/foreign-trade/statistics/highlights/images/Congressional.pdf>.
- ² U.S. Census Bureau and U.S. Bureau of Economic Analysis, *U.S. International Trade in Goods and Services*, March 6, 2020. <https://www.census.gov/foreign-trade/statistics/highlights/images/Congressional.pdf>.
- ³ U.S. Census Bureau and U.S. Bureau of Economic Analysis, *U.S. International Trade in Goods and Services*, March 6, 2020. <https://www.census.gov/foreign-trade/statistics/highlights/images/Congressional.pdf>.
- ⁴ William Barr, “Attorney General William Barr’s Keynote Address,” China Initiative Conference, Center for Strategic & International Studies, February 6, 2020. <https://www.csis.org/analysis/attorney-general-william-barrs-keynote-address-china-initiative-conference>.
- ⁵ Megan Leonhardt, “Equifax to Pay \$700 Million for Massive Data Breach. Here’s What You Need to Know about Getting a Cut,” *CNBC*, July 22, 2019. <https://www.cnbc.com/2019/07/22/what-you-need-to-know-equifax-data-breach-700-million-settlement.html>.
- ⁶ *United States v. Wu Zhiyong et al.*, Indictment, January 28, 2020, para. 2–3. <https://www.justice.gov/opa/press-release/file/1246891/download>.
- ⁷ U.S. Department of Justice, *Attorney General William P. Barr Announces Indictment of Four Members of China’s Military for Hacking into Equifax*, February 10, 2020. <https://www.justice.gov/opa/speech/attorney-general-william-p-barr-announces-indictment-four-members-china-s-military>.
- ⁸ U.S. Department of Justice, *Attorney General William P. Barr Announces Indictment of Four Members of China’s Military for Hacking into Equifax*, February 10, 2020. <https://www.justice.gov/opa/speech/attorney-general-william-p-barr-announces-indictment-four-members-china-s-military>.
- ⁹ Dennis Fisher, “U.S. Charges Chinese PLA Members in Equifax Breach,” *Decipher*, February 10, 2020. <https://duo.com/decipher/us-charges-chinese-pla-members-in-equifax-breach>.
- ¹⁰ Indictment, *United States v. Tian Yinyin and Li Jiadong*, No. 1:20-cr-00052-TJK (D.D.C. February 27, 2020).
- ¹¹ Indictment, *United States v. Tian Yinyin and Li Jiadong*, No. 1:20-cr-00052-TJK (D.D.C. February 27, 2020).
- ¹² Verified Complaint for Forfeiture *In Rem*, U.S. v. 113 Virtual Currency Accounts, No. 1:20-cv-00606 (D.D.C. March 2, 2020).
- ¹³ Spencer S. Hsu and Ellen Nakashima, “Two Chinese Nationals Indicted in Cryptocurrency Laundering Scheme Linked to North Korea,” *Washington Post*, March 3, 2020. https://www.washingtonpost.com/local/legal-issues/two-chinese-nationals-indicted-in-cryptocurrency-laundering-scheme-linked-to-north-korea/2020/03/02/b6a286c2-5c8d-11ea-9055-5fa12981bbbf_story.html.
- ¹⁴ Robert D. Williams, “America’s Hopelessly Anemic Response to One of the Largest Personal-Data Breaches Ever,” *Atlantic*, February 12, 2020. <https://www.theatlantic.com/ideas/archive/2020/02/whats-behind-the-indictment-of-the-equifax-hackers/606466/>.
- ¹⁵ Robert D. Williams, “America’s Hopelessly Anemic Response to One of the Largest Personal-Data Breaches Ever,” *Atlantic*, February 12, 2020. <https://www.theatlantic.com/ideas/archive/2020/02/whats-behind-the-indictment-of-the-equifax-hackers/606466/>; Spencer S. Hsu and Ellen Nakashima, “Two Chinese Nationals Indicted in Cryptocurrency Laundering Scheme Linked to North Korea,” *Washington Post*, March 3, 2020. https://www.washingtonpost.com/local/legal-issues/two-chinese-nationals-indicted-in-cryptocurrency-laundering-scheme-linked-to-north-korea/2020/03/02/b6a286c2-5c8d-11ea-9055-5fa12981bbbf_story.html.
- ¹⁶ Robert D. Williams, “America’s Hopelessly Anemic Response to One of the Largest Personal-Data Breaches Ever,” *Atlantic*, February 12, 2020. <https://www.theatlantic.com/ideas/archive/2020/02/whats-behind-the-indictment-of-the-equifax-hackers/606466/>.
- ¹⁷ Catalin Cimpanu, “Chinese Security Firm Says CIA Hacked Chinese Targets for the Past 11 Years,” *Zero Day*, March 3, 2020. <https://www.zdnet.com/article/chinese-security-firm-says-cia-hacked-chinese-targets-for-the-past-11-years/>.
- ¹⁸ Saheli Roy Choudhury, “Huawei Claims U.S. Charges of Stealing Trade Secrets Are an Attempt to ‘Irrevocably Damage’ Its Image,” *CNBC*, February 14, 2020. <https://www.cnbc.com/2020/02/14/huawei-says-us-charges-are-an-attempt-to-irrevocably-damage-its-image.html>.
- ¹⁹ Saheli Roy Choudhury, “Huawei Claims U.S. Charges of Stealing Trade Secrets Are an Attempt to ‘Irrevocably Damage’ Its Image,” *CNBC*, February 14, 2020. <https://www.cnbc.com/2020/02/14/huawei-says-us-charges-are-an-attempt-to-irrevocably-damage-its-image.html>.
- ²⁰ U.S. Department of Commerce, “Modification of Regulations Regarding Benefit and Specificity in Countervailing Duty Proceedings,” *Federal Register* 84:102 (May 28, 2019). <https://www.govinfo.gov/content/pkg/FR-2019-05-28/pdf/2019-11197.pdf>.

- ²¹ U.S. Department of the Treasury, “Treasury Releases Report on Macroeconomic and Foreign Exchange Policies of Major Trading Partners of the United States,” January 13, 2020. <https://home.treasury.gov/news/press-releases/sm873>; Alan Rappoport, “U.S. Says China Is No Longer a Currency Manipulator,” *New York Times*, January 13, 2020. <https://www.nytimes.com/2020/01/13/us/politics/treasury-china-currency-manipulator-trade.html>.
- ²² U.S. Department of Commerce International Trade Administration, “Modification of Regulations Regarding Benefit and Specificity in Countervailing Duty Proceedings,” *Federal Register* 85:23 (February 4, 2020). <https://www.govinfo.gov/content/pkg/FR-2020-02-04/pdf/2020-02097.pdf>.
- ²³ U.S. Department of Commerce International Trade Administration, “Modification of Regulations Regarding Benefit and Specificity in Countervailing Duty Proceedings,” *Federal Register* 85:23 (February 4, 2020). <https://www.govinfo.gov/content/pkg/FR-2020-02-04/pdf/2020-02097.pdf>.
- ²⁴ U.S. Department of Commerce International Trade Administration, “Modification of Regulations Regarding Benefit and Specificity in Countervailing Duty Proceedings,” *Federal Register* 85:23 (February 4, 2020). <https://www.govinfo.gov/content/pkg/FR-2020-02-04/pdf/2020-02097.pdf>.
- ²⁵ U.S. Department of Commerce International Trade Administration, “Modification of Regulations Regarding Benefit and Specificity in Countervailing Duty Proceedings,” *Federal Register* 85:23 (February 4, 2020). <https://www.govinfo.gov/content/pkg/FR-2020-02-04/pdf/2020-02097.pdf>.
- ²⁶ U.S. Department of Commerce International Trade Administration, “Modification of Regulations Regarding Benefit and Specificity in Countervailing Duty Proceedings,” *Federal Register* 85:23 (February 4, 2020). <https://www.govinfo.gov/content/pkg/FR-2020-02-04/pdf/2020-02097.pdf>.
- ²⁷ Bethany Allen-Ebrahimian, “Scoop: State-Owned Think Tank Floats China-Led WHO Alternative,” *Axios*, March 4, 2020. <https://www.axios.com/china-coronavirus-think-tank-world-health-organization-c0c4348f-d481-4e5c-9391-f54000248a2f.html>; Javier C. Hernandez, “China Spins Coronavirus Crisis, Hailing Itself as a Global Leader,” *New York Times*, February 28, 2020. <https://www.nytimes.com/2020/02/28/world/asia/china-coronavirus-response-propaganda.html>.
- ²⁸ Dawn Liu et al., “Coronavirus: Rumors and misinformation swirl unchecked in China,” *NBC*, March 6, 2020. <https://www.nbcnews.com/news/world/coronavirus-rumors-misinformation-swirl-unchecked-china-n1151291>.
- ²⁹ Dawn Liu et al., “Coronavirus: Rumors and misinformation swirl unchecked in China,” *NBC*, March 6, 2020. <https://www.nbcnews.com/news/world/coronavirus-rumors-misinformation-swirl-unchecked-china-n1151291>.
- ³⁰ James Griffiths, “The Coronavirus Crisis Is Raising Questions over China’s Relationship with the World Health Organization,” *CNN*, February 16, 2020. <https://www.cnn.com/2020/02/14/asia/coronavirus-who-china-intl-hnk/index.html>.
- ³¹ Imogen Foulkes, “Tedros Adhanom Ghebreyesus: The Ethiopian at the Heart of the Coronavirus Fight,” *BBC*, March 4, 2020. <https://www.bbc.com/news/world-africa-51720184>.
- ³² Donald G. McNeil, “Inside China’s All-Out War on the Coronavirus,” *New York Times*, March 4, 2020. <https://www.nytimes.com/2020/03/04/health/coronavirus-china-aylward.html>.
- ³³ Xi Jinping, “Speech on Novel Coronavirus Work at the Politburo Standing Committee Study Group,” *Seeking Truth* 2020:4, February 15, 2020. Translation. http://www.qsttheory.cn/dukan/qs/2020-02/15/c_1125572832.htm.
- ³⁴ Xi Jinping, “Speech on Novel Coronavirus Work at the Politburo Standing Committee Study Group,” *Seeking Truth* 2020:4, February 15, 2020. Translation. http://www.qsttheory.cn/dukan/qs/2020-02/15/c_1125572832.htm.
- ³⁵ Imogen Foulkes, “Tedros Adhanom Ghebreyesus: The Ethiopian at the Heart of the Coronavirus Fight,” *BBC*, March 4, 2020. <https://www.bbc.com/news/world-africa-51720184>.
- ³⁶ Louis Charbonneau, “Countries Blast China at UN over Xinjiang Abuses,” *Human Rights Watch*, October 30, 2019. <https://www.hrw.org/news/2019/10/30/countries-blast-china-un-over-xinjiang-abuses#>; Dan Levin, “At U.N., China Tries to Influence Fight over Internet Control,” *New York Times*, December 16, 2015. <https://www.nytimes.com/2015/12/17/technology/china-wins-battle-with-un-over-word-in-internet-control-document.html>.
- ³⁷ Cecelia Smith-Schoenwalder, “WHO Advises Countries Not to Politicize Coronavirus Outbreak as U.S. Awaits Invite to China,” *U.S. News and World Report*, February 14, 2020. <https://www.usnews.com/news/world-report/articles/2020-02-14/who-warns-countries-not-to-politicize-coronavirus-outbreak-as-cdc-awaits-invite-to-china>; Donald G. McNeil and Zolan Kanno-Youngs, “CDC and WHO Offers to Help China Have Been Ignored for Weeks,” *New York Times*, February 7, 2020. <https://www.nytimes.com/2020/02/07/health/cdc-coronavirus-china.html>.
- ³⁸ James Griffiths, “The Coronavirus Crisis Is Raising Questions over China’s Relationship with the World Health Organization,” *CNN*, February 16, 2020. <https://www.cnn.com/2020/02/14/asia/coronavirus-who-china-intl-hnk/index.html>.
- ³⁹ James Griffiths, “The Coronavirus Crisis Is Raising Questions over China’s Relationship with the World Health Organization,” *CNN*, February 16, 2020. <https://www.cnn.com/2020/02/14/asia/coronavirus-who-china-intl-hnk/index.html>.
- ⁴⁰ Ministry of Foreign Affairs of the Republic of China (Taiwan), *International Organizations in Which We Participate*. <https://www.mofa.gov.tw/enigo/Link3enigo.aspx?n=58BD38F4400A7167&sms=A72EC821FB103DD9>.
- ⁴¹ Chen Wei-ting et al., “Taiwan Complains to WHO for Misnumbering Coronavirus Cases,” *Focus Taiwan*, February 4, 2020. <https://focustaiwan.tw/society/202002040020>.
- ⁴² James Griffiths, “The Coronavirus Crisis Is Raising Questions over China’s Relationship with the World Health Organization,” *CNN*, February 16, 2020. <https://www.cnn.com/2020/02/14/asia/coronavirus-who-china-intl-hnk/index.html>.
- ⁴³ Bethany Allen-Ebrahimian, “Scoop: State-Owned Think Tank Floats China-Led WHO Alternative,” *Axios*, March 4, 2020. <https://www.axios.com/china-coronavirus-think-tank-world-health-organization-c0c4348f-d481-4e5c-9391-f54000248a2f.html>.
- ⁴⁴ Bethany Allen-Ebrahimian, “Scoop: State-Owned Think Tank Floats China-Led WHO Alternative,” *Axios*, March 4, 2020. <https://www.axios.com/china-coronavirus-think-tank-world-health-organization-c0c4348f-d481-4e5c-9391-f54000248a2f.html>.

- ⁴⁵ Bethany Allen-Ebrahimian, “Scoop: State-Owned Think Tank Floats China-Led WHO Alternative,” *Axios*, March 4, 2020. <https://www.axios.com/china-coronavirus-think-tank-world-health-organization-c0c4348f-d481-4e5c-9391-f54000248a2f.html>.
- ⁴⁶ Zhang Wei, “Manufacturing Companies Plan for Resumption of Work” (《制造企业谋划复工大计·期待3月开始安全自救》), *Caijing*, February 8, 2020.
- ⁴⁷ Emily Feng and Amy Cheng, “Restrictions and Rewards: How China Is Locking Down Half a Billion Citizens,” *NPR*, February 21, 2020. <https://www.npr.org/sections/goatsandsoda/2020/02/21/806958341/restrictions-and-rewards-how-china-is-locking-down-half-a-billion-citizens>.
- ⁴⁸ Sun Yu, “China’s Stranded Workers Drag Down COVID-19 Stricken Economy,” *Financial Times*, March 3, 2020. <https://www.ft.com/content/43d05790-5d10-11ea-b0ab-339c2307bcd4>.
- ⁴⁹ Nikki Sun, “Virus Hits China’s Economic Heart – Its Small Business,” *Nikkei Asian Review*, February 21, 2020. <https://asia.nikkei.com/Business/Industry-in-focus/Virus-hits-China-s-economic-heart-its-small-businesses>.
- ⁵⁰ Allen Feng and Logan Wright, “Unconventional Threat, Unconventional Response,” *Rhodium Group*, March 6, 2020, 2.
- ⁵¹ Baidu Migration Index, “Popular Migration Destinations.” <https://qianxi.baidu.com/>.
- ⁵² Chen Ting-Fang and Lauly Li, “China Lets Wuhan Tech Plants Bypass Lockdown to Stay Open,” *Nikkei Asian Review*, March 4, 2020. <https://asia.nikkei.com/Spotlight/COVID-19/China-lets-Wuhan-tech-plants-bypass-lockdown-to-stay-open>.
- ⁵³ American Chamber of Commerce in China, “AmCham China Flash Survey Report on the Impact of COVID-19,” February 27, 2020, 9.
- ⁵⁴ American Chamber of Commerce in China, “AmCham China Flash Survey Report on the Impact of COVID-19,” February 27, 2020, 9.
- ⁵⁵ Leslie Hook, “COVID-19 Leads to Sharp Fall in China’s Carbon Emissions,” *Financial Times*, March 4, 2020. <https://www.ft.com/content/df3fb3b2-5def-11ea-8033-fa40a0d65a98>.
- ⁵⁶ *Bloomberg News*, “China Posts Weakest Factory Activity on Record,” updated February 29, 2020. <https://www.bloomberg.com/news/articles/2020-02-29/china-feb-manufacturing-pmi-at-35-7-est-45-0>.
- ⁵⁷ China Federation of Logistics and Purchasing and National Bureau of Labor Statistics via CEIC.
- ⁵⁸ Tang Ziyi, “Chinese Manufacturers Haven’t Seen It This Bad in 16 Years, Caixin PMI Shows,” *Caixin*, March 2, 2020. <https://www.caixinglobal.com/2020-03-02/chinese-manufacturers-havent-seen-it-this-bad-in-16-years-caixin-pmi-shows-101521789.html>.
- ⁵⁹ Sun Yu and Xinning Liu, “China Issues Record Number of Force Majeure Certificates,” *Financial Times*, February 27, 2020. <https://www.ft.com/content/bca84ad8-5860-11ea-a528-dd0f971febbc>.
- ⁶⁰ *Xinhua*, “MIIT: Increased Policy Support for SMEs to Return to Work and Resume Production” (工信部: 针对中小企业复工复产加大政策支持), March 4, 2020. Translation. http://www.xinhuanet.com/2020-03/04/c_1125663237.htm.
- ⁶¹ Yuan Ruiyang and Isabelle Li, “Lights Are On but No One’s Working: How Local Governments Are Faking Coronavirus Recovery,” *Caixin*, March 4, 2020. <https://www.caixinglobal.com/2020-03-04/lights-are-on-but-no-ones-working-how-local-governments-are-faking-coronavirus-recovery-101524058.html>.
- ⁶² Sun Yu, “China’s Stranded Workers Drag Down COVID-19 Stricken Economy,” *Financial Times*, March 3, 2020. <https://www.ft.com/content/43d05790-5d10-11ea-b0ab-339c2307bcd4>.
- ⁶³ Zhang Wei, “Manufacturing Companies Plan for Resumption of Work” (《制造企业谋划复工大计·期待3月开始安全自救》), *Caijing*, February 8, 2020.
- ⁶⁴ Peking University and Tsinghua University, “How Are Small- and Medium-sized Enterprises [SMEs] in the Midst of the Outbreak Rescuing Themselves? Following a Survey of 1,435 SMEs, We Offer Some Comments” (《疫情中的中小企业如何自救? 调研 1435 家中小企业后, 我们提出这些建议》), February 17, 2020. https://www.phbs.pku.edu.cn/2020/media_0217/6868.html.
- ⁶⁵ *Sina News*, “Qinghua University and Peking University Joint Survey of 995 SMEs, the Battle of How to Overcome the Next Three Months” (清华、北大联合调研 995 家中小企业, 如何穿越 3 个月的生死火线), February 5, 2020. Translation. <https://tech.sina.cn/2020-02-05/detail-iimxyqvz0515277.d.html>.
- ⁶⁶ National Bureau of Statistics via CEIC.
- ⁶⁷ Tracy Qu, “China’s Traditional Schools Embrace Online Learning as COVID-19 Forces Students to Stay at Home,” *South China Morning Post*, February 5, 2020. <https://www.scmp.com/tech/enterprises/article/3048891/chinas-traditional-schools-embrace-online-learning-COVID-19>.
- ⁶⁸ Tracy Qu, “China’s Traditional Schools Embrace Online Learning as COVID-19 Forces Students to Stay at Home,” *South China Morning Post*, February 5, 2020. <https://www.scmp.com/tech/enterprises/article/3048891/chinas-traditional-schools-embrace-online-learning-COVID-19>.
- ⁶⁹ Rita Liao, “China Roundup: Amid COVID-19, Tech Firms Offer Ways to Maintain China’s Lifeblood,” *TechCrunch*, February 23, 2020. <https://techcrunch.com/2020/02/23/china-roundup-tech-companies-COVID-19/>.
- ⁷⁰ Yuru Priscilla Zhu, “COVID-19 Is Dramatically Changing Food Consumption in China – Here’s How,” *Business Insider*, February 18, 2020. <https://www.businessinsider.com/COVID-19-changing-food-consumption-in-china-2020-2>.
- ⁷¹ Yuru Priscilla Zhu, “COVID-19 Is Dramatically Changing Food Consumption in China – Here’s How,” *Business Insider*, February 18, 2020. <https://www.businessinsider.com/COVID-19-changing-food-consumption-in-china-2020-2>.
- ⁷² China State Council, *Today Three Important Decisions Were Made at State Council Regular Business Meeting* (今天的国务院常务会议定了这三件大事), March 3, 2020. Translation. http://www.gov.cn/xinwen/2020-03/03/content_5486536.htm; Gabriel Crossley, “China’s Central Bank to Ensure Ample Liquidity through Targeted RRR Cuts,” *Reuters*, February 27, 2020. <https://www.reuters.com/article/us-china-health-lending/chinas-central-bank-to-ensure-ample-liquidity-through-targeted-rrr-cuts-idUSKCN20LOYC>.

- ⁷³ China State Council, *State Council: Increasing Financial Support for SMEs to Restart Work and Production* (国务院: 加大中小微企业复工复产金融支持), February 26, 2020. Translation. http://www.gov.cn/zhengce/2020-02/26/content_5483881.htm; Hu Yue and Tang Ziyi, “China Steps Up Measures to Boost Medical Supplies as Epidemic Spreads,” *Caixin Global*, February 6, 2020. <https://www.caixinglobal.com/2020-02-06/china-steps-up-measures-to-boost-medical-supplies-as-epidemic-spreads-101512431.html>.
- ⁷⁴ People’s Bank of China, Ministry of Finance, National Development and Reform Commission, Ministry of Industry and Information Technology, and People’s Bank of China Audit Office Urgent Notice on Winning the Battle of Epidemic Prevention and Control (财政部 发展改革委 工业和信息化部 人民银行 审计署关于打赢疫情防控阻击战 强化疫情防控重点保障企业资金支持的紧急通知), February 8, 2020. Translation. <http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/3969095/index.html>.
- ⁷⁵ Reuters, “China Takes Major Steps to Prop Up Coronavirus-Hit Economy,” February 20, 2020. <https://www.reuters.com/article/us-china-health-policy-factbox/china-takes-major-steps-to-prop-up-coronavirus-hit-economy-idUSKBN20E101>; People’s Bank of China, Ministry of Finance, National Development and Reform Commission, Ministry of Industry and Information Technology, and People’s Bank of China Audit Office Urgent Notice on Winning the Battle of Epidemic Prevention and Control (财政部 发展改革委 工业和信息化部 人民银行 审计署关于打赢疫情防控阻击战 强化疫情防控重点保障企业资金支持的紧急通知), February 8, 2020. Translation. <http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/3969095/index.html>; China National Interbank Funding Center, “LPR.” <http://www.chinamoney.com.cn/english/bmklpr/>.
- ⁷⁶ Reuters, “China Takes Major Steps to Prop Up Coronavirus-Hit Economy,” February 20, 2020. <https://www.reuters.com/article/us-china-health-policy-factbox/china-takes-major-steps-to-prop-up-coronavirus-hit-economy-idUSKBN20E101>; People’s Bank of China, Ministry of Finance, National Development and Reform Commission, Ministry of Industry and Information Technology, and People’s Bank of China Audit Office Urgent Notice on Winning the Battle of Epidemic Prevention and Control (财政部 发展改革委 工业和信息化部 人民银行 审计署关于打赢疫情防控阻击战 强化疫情防控重点保障企业资金支持的紧急通知), February 8, 2020. Translation. <http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/3969095/index.html>; China National Interbank Funding Center, “LPR.” <http://www.chinamoney.com.cn/english/bmklpr/>.
- ⁷⁷ Sun Yu, “Chinese Companies Sell ‘Coronavirus Bonds’ to Boost Balance Sheets,” *Financial Times*, February 18, 2020. <https://www.ft.com/content/bc394d62-5212-11ea-8841-482eed0038b1>.
- ⁷⁸ Zhou Wen and Serena Ng, “China Opens a Coronavirus Bond Spigot and Companies Rush In,” *Wall Street Journal*, March 4, 2020. <https://www.wsj.com/articles/china-opens-a-coronavirus-bond-spigot-and-companies-rush-in-11583323208>; Samuel Shin and Noah Sin, “Chinese Companies Tap ‘Virus Bonds’ to Raise Billions Quickly,” *Reuters*, February 13, 2020. <https://www.reuters.com/article/us-china-health-virusbond/chinese-companies-tap-virus-bonds-to-raise-billions-quickly-idUSKBN20717J>; China State Council, *Notice on Further Strengthening Financial Support for Prevention and Control of the New Coronavirus* (关于进一步强化金融支持防控新型冠状病毒感染肺炎疫情的通知), January 31, 2020. Translation. http://www.gov.cn/zhengce/zhengceku/2020-02/01/content_5473639.htm.
- ⁷⁹ Eastmoney, “ICBC Underwrites Epidemic Prevention and Control to Support the Front-Line of the War on the Epidemic” (工行承销疫情防控债券支持一线抗“疫”), February 13, 2020. Translation. <http://finance.eastmoney.com/a/202002131382500768.html>.
- ⁸⁰ Eastmoney, “Central Bank: Nearly One Thousand Enterprises Receive Re-loans, Prudent Monetary Policy Becomes More Flexible and Moderate” (央行: 近千家企业获得专项再贷款 稳健的货币政策将更加灵活适度), February 24, 2020. Translation. <http://finance.eastmoney.com/a/202002241394511449.html>.
- ⁸¹ Zhou Wen and Serena Ng, “China Opens a Coronavirus Bond Spigot and Companies Rush In,” *Wall Street Journal*, March 4, 2020. <https://www.wsj.com/articles/china-opens-a-coronavirus-bond-spigot-and-companies-rush-in-11583323208>.
- ⁸² Kenji Kawase, “China’s ‘Virus Bonds’ Treat the Wrong Symptoms,” *Nikkei Asian Review*, February 14, 2020. <https://asia.nikkei.com/Spotlight/Coronavirus/China-s-virus-bonds-treat-the-wrong-symptoms>; Samuel Shen and Noah Sin, “Chinese Companies Tap ‘Virus Bonds’ to Raise Billions Quickly,” *Reuters*, February 13, 2020. <https://www.reuters.com/article/us-china-health-virusbond/chinese-companies-tap-virus-bonds-to-raise-billions-quickly-idUSKBN20717J>.
- ⁸³ Kenji Kawase, “China’s ‘Virus Bonds’ Treat the Wrong Symptoms,” *Nikkei Asian Review*, February 14, 2020. <https://asia.nikkei.com/Spotlight/Coronavirus/China-s-virus-bonds-treat-the-wrong-symptoms>.
- ⁸⁴ Wu Hongyuran and Guo Yuzhe, “China Blocks Access to Cheap Epidemic Loans for 48 Firms,” *Caixin Global*, February 27, 2020. <https://www.caixinglobal.com/2020-02-27/exclusive-china-blocks-access-to-cheap-epidemic-loans-for-48-firms-101521384.html>.
- ⁸⁵ Sina News, “Qinghua University and Peking University Joint Survey of 995 SMEs, the Battle of How to Overcome the Next Three Months” (清华、北大联合调研 995 家中小企业, 如何穿越 3 个月的生死火线), February 5, 2020. Translation. <https://tech.sina.cn/2020-02-05/detail-iimxyqvz0515277.d.html>.
- ⁸⁶ Eastmoney, “MOFCOM: The Epidemic Is a Large Shock to the Accommodations and Catering Industry, Related Companies Receive Tax and Fee Exemptions during the Period of Prevention and Control” (商务部: 住宿餐饮受疫情冲击大 防控期间对相关企业免收增值税), February 26, 2020. Translation. <http://finance.eastmoney.com/a/202002261397892662.html>.
- ⁸⁷ China Banking and Insurance Regulatory Commission, *Responsible Officials in Relevant Departments of the CBIRC Answer Reporters’ Questions about the Notice on Temporarily Delaying Principal and Interest Payments for Loans to Small, Medium, and Micro Enterprise* (银保监会有关部门负责人就《关于对中小微企业贷款实施临时性延期还本付息的通知》答记者问), March 1, 2020. Translation. <http://www.cbirc.gov.cn/cn/view/pages/ItemDetail.html?docId=892275&itemId=915&generalType=0>.
- ⁸⁸ Office of the U.S. Trade Representative, *USDA and USTR Announce Progress on Implementation of U.S.-China Phase One Agreement*, February 25, 2020. <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2020/february/usda-and-ustr-announce-progress-implementation-us-china-phase-one-agreement>.

- ⁸⁹ State Council of the People's Republic of China, *Announcement of the Customs Tariff Commission of the State Council on the Exemption of Tariffs on Selected U.S. and Canadian Commodities* (国务院关税税则委员会关于开展对美加征关税商品市场化采购排除工作的公告), February 17, 2020. Translation. http://gss.mof.gov.cn/gzdt/zhengcefabu/202002/t20200218_3470901.htm; State Council of the People's Republic of China, *Announcement of the Customs Tariff Commission of the State Council on the Adjustment of Tariffs on Certain Imports Originating in the United States* (国务院关税税则委员会关于调整对原产于美国的部分进口商品加征关税措施的公告), February 7, 2020. Translation. http://gss.mof.gov.cn/gzdt/zhengcefabu/202002/t20200206_3466540.htm.
- ⁹⁰ Bart Kenner and Hui Jiang, "Outlook for U.S. Agricultural Trade," *U.S. Department of Agriculture*, February 20, 2020, 10. <https://www.ers.usda.gov/webdocs/publications/96937/aes-111.pdf?v=8857.5>.
- ⁹¹ Office of the U.S. Trade Representative, "Chapter 7, Article 7.6: Miscellaneous" in *Economic and Trade Agreement between the Government of the United States of America and the Government of the People's Republic of China*, January 15, 2020.
- ⁹² American Chamber of Commerce in Shanghai, "Supply Chains and Factory Openings: An AmCham Shanghai Mini-Survey," February 17, 2020. <https://www.amcham-shanghai.org/en/article/supply-chains-and-factory-openings-amcham-shanghai-mini-survey>.
- ⁹³ *Economist*, "The New Coronavirus Could Have a Lasting Impact on Global Supply Chains," February 15, 2020. <https://www.economist.com/international/2020/02/15/the-new-coronavirus-could-have-a-lasting-impact-on-global-supply-chains>.
- ⁹⁴ U.S. Census Bureau, *Activities of U.S. Multinational Enterprises*, August 23, 2019. <https://www.bea.gov/data/intl-trade-investment/activities-us-multinational-enterprises-mnes>.
- ⁹⁵ Karen Weise, "Microsoft Issues Financial Warning Because of Coronavirus," *New York Times*, February 26, 2020. <https://www.nytimes.com/2020/02/26/technology/microsoft-coronavirus-earnings.html>; Alex Wilhelm, "Apple Will Miss Revenue Forecast as Coronavirus Impacts Its Manufacturing and Sales," *TechCrunch*, February 17, 2020. <https://techcrunch.com/2020/02/17/apple-will-miss-revenue-forecast-as-coronavirus-impacts-its-manufacturing-sales/>.
- ⁹⁶ U.S.-China Economic and Security Review Commission, *Hearing on Exploring the Growing U.S. Reliance on China's Biotech and Pharmaceutical Products*, written testimony of Katherine Eban, July 31, 2019, 1; U.S. Food and Drug Administration, *FDA at a Glance: FDA-Regulated Products and Facilities*, April 2017.
- ⁹⁷ Stephanie Findlay, Hannah Kuchler, and Sarah Neville, "Drugmakers Braced for Coronavirus Disruption to China Supplies," *Financial Times*, February 12, 2020. <https://www.ft.com/content/8630c51c-4cc0-11ea-95a0-43d18ec715f5>.
- ⁹⁸ Chad Bown and Soumaya Keynes, "Trade Talks 123: Coronavirus: From Quarantine to Trade," *Trade Talks Podcast*, February 28, 2020. <https://www.piie.com/experts/podcasts/trade-talks/episode-123-coronavirus-quarantine-trade>.
- ⁹⁹ Paul A. Eisenstein, "Coronavirus Expected to Slam 2020 Global Car Sales," *NBC News*, February 26, 2020. <https://www.nbcnews.com/business/autos/coronavirus-expected-slam-2020-global-car-sales-n1143571>.
- ¹⁰⁰ Ben Foldy, "Coronavirus Pinching Car-Industry Supply Chains," *MarketWatch*, February 14, 2020. <https://www.marketwatch.com/story/coronavirus-pinching-car-industry-supply-chains-2020-02-14>.
- ¹⁰¹ Keiko Morris and Austen Hufford, "U.S. Travel Industry Set for Multibillion-Dollar Hit from Coronavirus," *Wall Street Journal*, February 12, 2020. <https://www.wsj.com/articles/travel-industry-set-for-multibillion-dollar-hit-from-coronavirus-11581503401>.
- ¹⁰² Niraj Chokshi, "Airlines Feel Deepening Impact as Coronavirus Upends Travel," *New York Times*, March 4, 2020. <https://www.nytimes.com/2020/03/04/business/united-airlines-coronavirus.html>.
- ¹⁰³ Board of Governors of the Federal Reserve System, *Federal Reserve Issues FOMC Statement*, March 3, 2020. <https://www.federalreserve.gov/newsevents/pressreleases/monetary20200303a.htm>.
- ¹⁰⁴ Caitlin Emma and Jennifer Scholtes, "House Swiftly Passes Bipartisan \$8.3B Coronavirus Package," *Politico*, March 4, 2020. <https://www.politico.com/news/2020/03/04/house-coronavirus-funding-121065>.